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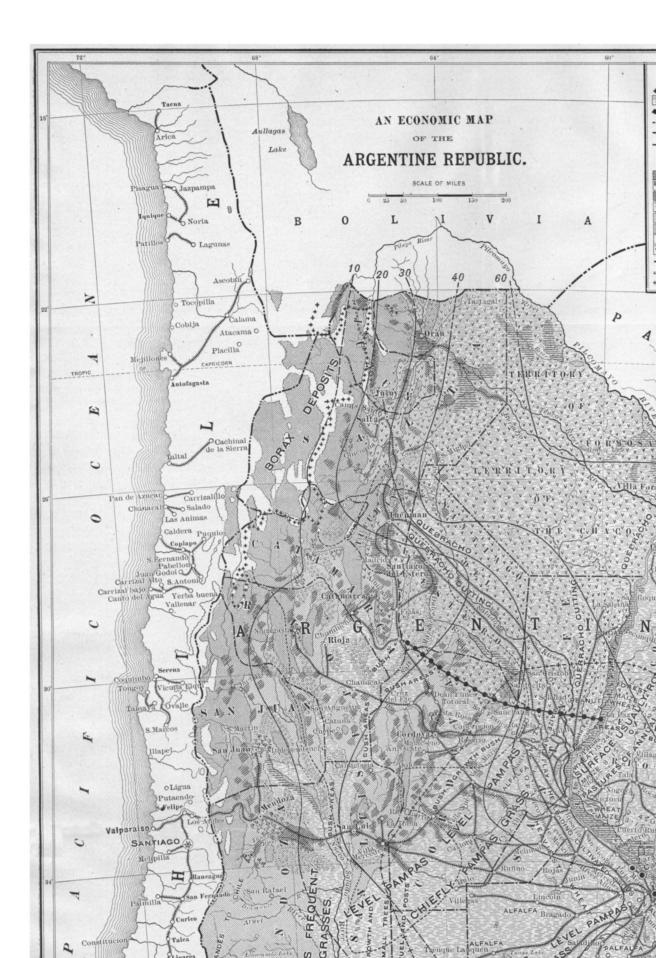
horses are worth from \$30.00 to \$50.00 there. The natives ride, as they do elsewhere in the West Indies, with huge wicker baskets on either side of the little beasts, which patiently carry heavy loads. Everywhere the undisturbed charm of the tropics remains. The views are magnificent from the hills, and the gallops along the stretches of beach by a rolling surf are never to be forgotten.

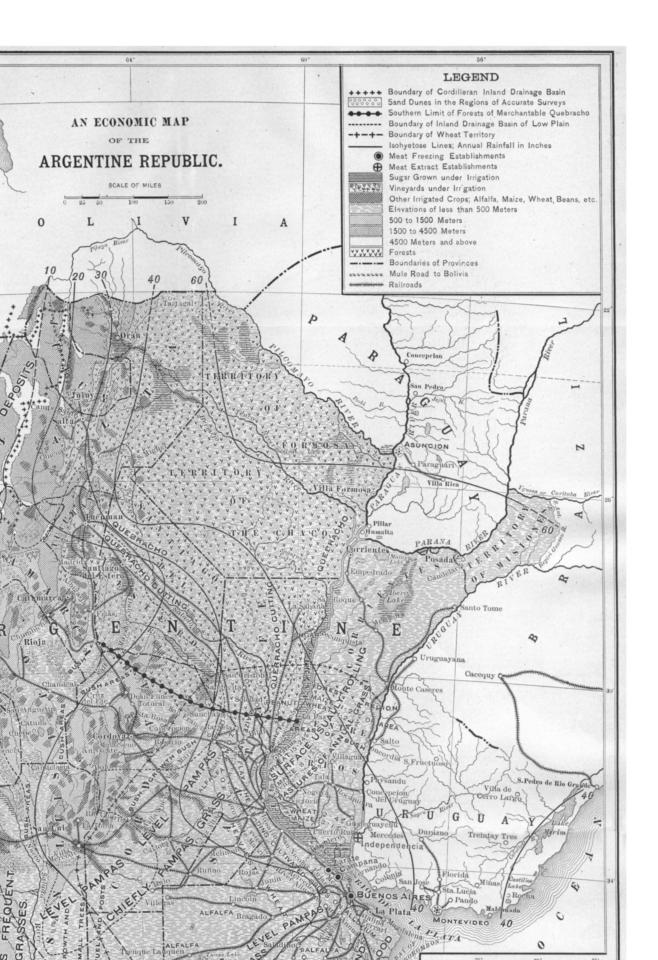
THE ECONOMIC GEOGRAPHY OF THE ARGENTINE REPUBLIC.

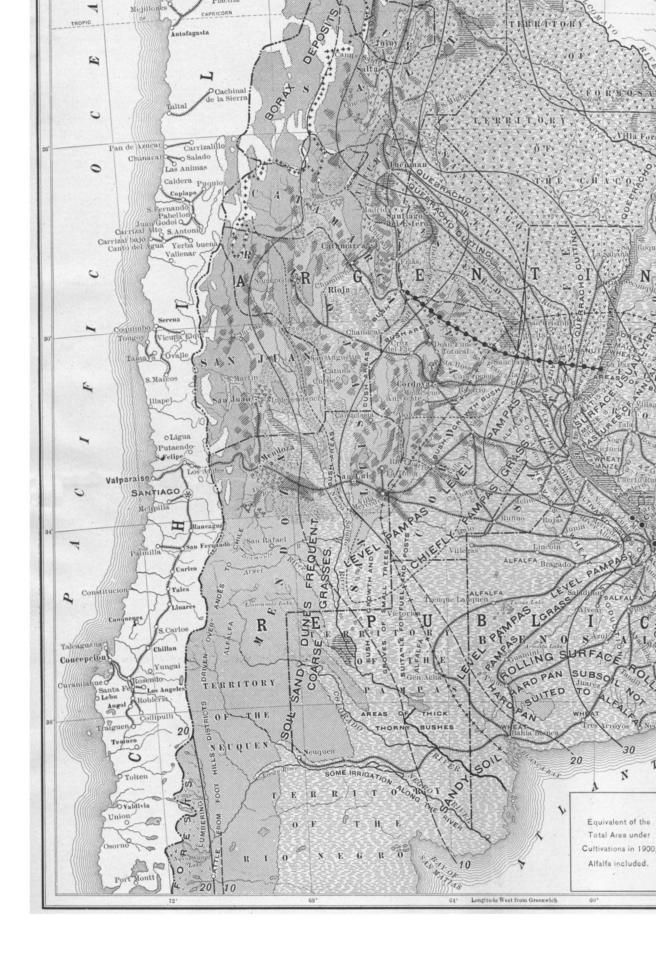
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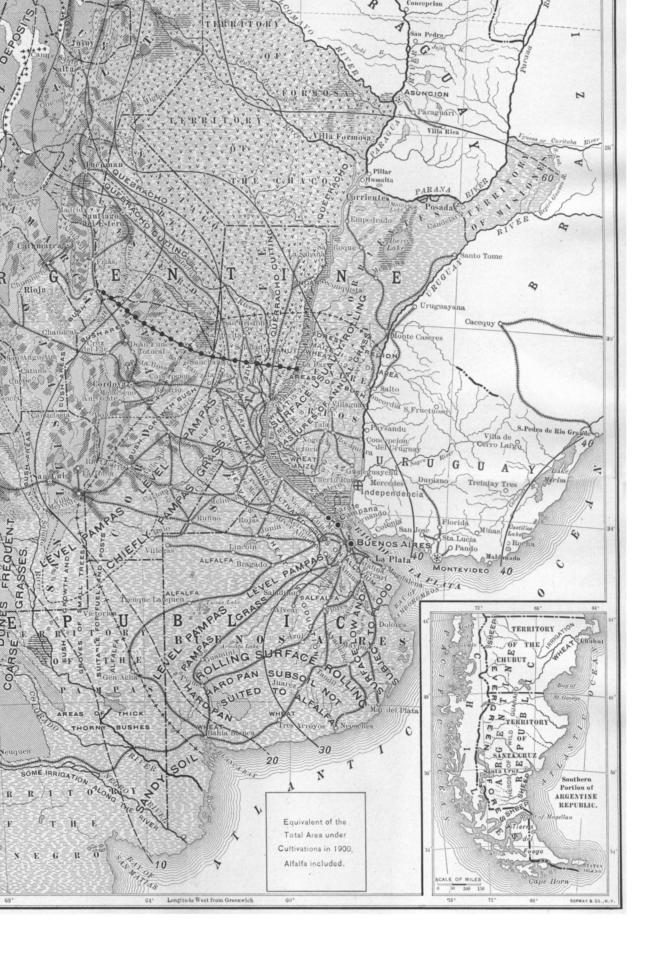
J. RUSSELL SMITH.

General Description .- The Argentine Republic is, in a general way, the southern counterpart for the region lying between the Missouri-Mississippi River and the watershed of the Rocky Moun-Each of these sections begins near the tropics, with a region of heavy rainfall and forests. From these centres of humidity the rainfall decreases toward the interior, and is accompanied by corresponding changes in the vegetation. In the United States the low-lying eastern part of the western half of the Mississippi Valley is forest-covered; then to the westward are the open plains, where corn and wheat are grown, the wheat going the farther westward, and finally giving way in the region of increasing aridity, where only pastoral industries can survive without irrigation. The supply of water for this purpose is mainly derived from the mountain streams at the western edge of the Great Plains, where thriving agricultural settlements are growing up in New Mexico, Colorado, and Montana. The Argentine Republic duplicates these zones. She has in the northeast a rainy forest belt, a corn belt, a wheat belt, then a wide stretch of semi-arid and arid plain, and finally at the foot of the Andes a succession of agricultural settlements, depending upon the water supply from the Andean snowfields. Both of the regions under consideration are extended and usually level plains that have been in great part deposited by erosion from the continental axis to the westward; but the comparison must not be carried too far, for there are minor differences that make Argentina the least valuable of the two areas. The forested region is smaller, and the wood less valuable; the grain-growing belt is nar-









rower, the arid belt is more arid, and the greater length from north to south gives the Argentina a tropic section in the latitude corresponding to Yucatan, and a cold temperate section reaching a higher latitude than the Saskatchewan River in Assiniboia. Despite these drawbacks, the Argentine Republic has large production and larger possibilities in both pasturage and agriculture, and considerable promise in her forests and minerals.

Mineral Resources.—The present mineral production of Argentina is slight. Lignite is found in several provinces, but it has not been successfully utilized, and, owing to the lack of coal, there is no iron manufacture. A small amount of petroleum is produced in Mendoza. In the extreme northwest, in the high and desert plateaux of the Andes, are extensive deposits of borates, which have recently been worked in a small way, but there is as yet no adequate outlet by which the product can reach the sea coast. Gold is found in the Andes, but the operations have been insignificant, and chiefly in the far south, where placer mines have been exploited in the Island of Tierra del Fuego. In 1900, 212 ounces of gold were produced.

Despite the meagre output of minerals, there is good geological reason for the belief that there is considerable mineral wealth. Western Argentina comprises the eastern slope of the Andean mountain system. The western side of this range in Chile is rich in deposits that are probably duplicated in some places on the other side of the range. Ore finds are constantly being reported in Argentina, but the great distance from a base of operations upon the sea coast and the lack of transport facilities have thus far prevented their development. The great agricultural and pastoral resources of the country have provided employment for the scanty supplies of labour and capital.

Forest Resources.—The forest resources of the Argentine Republic lie at the extremes of the country—the tropic and sub-tropic forests of the north and the evergreen forests of the south. Both are so far away from the centres of population and industry, and in locations so difficult of access, that the greater part of the lumber supply has been imported. The southern forests of Araucanian pine occupy considerable areas along the Andes in lower Patagonia and in Tierra del Fuego. Some lumbering has been done in places easily accessible from the sea, but this region is a remote and, until recently, unsettled frontier, as far from Buenos Aires as the coast of southern Labrador is from Boston.

The northern forests are made to contribute more to the economic life of the Republic, yet the larger part of this section is as little known as interior Patagonia. It is known as "El Gran Chaco" (the Great Hunting Ground), and is held by a few wandering tribes of hostile Indians, who have thus far resisted all efforts to explore the interior. The tree growth begins with thorn thickets as far south as the Rio Colorado, in about latitude 41°. These thickets are replaced northward by groves of small trees suitable for fuel and posts, and giving a park landscape to the eastern part of Pampa Territory and much of Cordoba. This growth does not go eastward into the Province of Buenos Aires nor into Santa Fé until latitude 31° is reached. Here the increasing rainfall raises the tree growth into a forest that extends northward into Bolivia, and often presents impassable jungle. The most valuable product of this zone is the wood of the red quebracho tree, commonly called quebracho colorado (Quebrachia Lorentzii or Loxopterigium Lorentzii). It has great hardness, weight, and durability, and produces a valuable extract containing tannin. The wood lasts well in air, water, or earth, and has been widely used in the construction of Argentine railroads, serving as ties, bridge timbers, and telegraph poles. The tannin content is usually from 10-20%, but the finest grade of quebracho growing in a strip from fifteen to twenty miles wide along the west bank of the Parana is said to yield from 22 to 28%.* The high quality of leather produced by this extract has led to the exportation of the wood to Europe. The shipments † were 29,700 tons in 1892, 155,000 tons in 1895, 225,000 tons in 1900. It was all used for tanning purposes, and successful experiments at extracting the tannin near the scene of production have caused a large increase in the business, which has attracted German, British, French, and American capital.

The quebracho tree is from 35 to 45 feet in height, from 12 to 40 inches in diameter (rarely above 20), and is found in abundance in the region bounded by 30° and 22° south and 58° and 65° west longitude. This area of 125,000 square miles is larger than Georgia and Florida combined, and, according to the estimate of a recent German writer, § contains reserves of quebracho wood to the extent

^{*} Bulletin of Bureau of American Republics. Vol. XI, p. 881.

[†] Bulletin of Bureau of American Republics, Vol. XI, p. 881.

[‡]K. Kaerger Landwirtschaft & Kolonisation im Spanischen Amerika. 1 Band. Die La Plata-Staaten. Duncker & Humblot, Leipzig, 1902, p. 816.

[§] Quoted in Annales de Géographie, No. 57, p. 258.

of 168,750,000 tons—enough to give secure basis for a large development of the lumber and tannin industries.*

The Pastoral Industries.—The pastoral industries furnish the most important element in the wealth of the Argentine Republic. This country, like the western part of the Mississippi Valley, began its industrial history as a cattle range. This was the leading industry and the sole basis of the export trade from the founding of the colony late in the 16th century until 1848, when regular exports of wool began and increased with great rapidity.

About the middle of the 19th century efforts to introduce agriculture resulted in the successful growing of grain. The supply was inadequate for the home market, and regular importations were made from southern Brazil, Chile, and other countries till, in 1873, a surplus of wheat was placed upon the world's market. Since that date the advance has been rapid, and Argentina is now an important exporter of grain. The development of agriculture has not, however, caught up with the pastoral industries, which still furnish over half of the total exports of the country.

The cattle and sheep reported by the census of 1895 were respectively 21,702,000 and 74,380,000. In 1900 the cattle were estimated at 28,000,000, giving Argentina the third rank—United States having 44 million and Russia 30 † million. In 1901 the estimated number of sheep was 120‡ million, giving Argentina the first rank, as Australia had 70 million in 1900 and the United States 42 million. The wool clip was 250,000 tons in 1901.

The exports of animal products were valued at 115½ million dollars in 1899, and 71¼ millions in 1900. Wool is the most important item, but improvements in transportation are making meat and live animals of increasing importance. Both are now regularly shipped to Europe, more than 100,000 live animals having been sent in a single year. In 1900 (the latest statistics available) the shipments of frozen meat amounted to 261,000 quarters of beef and 2¼ million sheep. Other important articles are hides, sheep skins, tallow, and jerked beef for consumption in tropical countries.

The uneven distribution of the flocks and herds throughout the country is, like the agriculture, dependent upon varying climatic

^{*} The merchantable quebracho is all found north of a line running from the Parana at 31 S. to El Recreo 65 W. 291/3 S., thence along the slopes of the Andes.

[†] Annales de Géographie, p. 252.

[‡] Bulletin of Bureau of American Republics, July, 1901, p. 48.

conditions. As barns for stabling or shelter for live stock are practically unknown in Argentina, the questions of moisture and temperature are doubly important, affecting as they do every condition, both of food supply and physical survival. Cattle are not well protected by nature against cold, and the herds do not thrive south of the Province of Buenos Aires.* The winter temperature is sometimes extreme, and the "pampero" or southwest windstorms blow from the Patagonian highlands with great severity. The extremes of moisture and heat, however, are borne by cattle better than by any of the other domestic animals of the temperate They can survive an annual rainfall of 80 inches, and the cattle industry extends northward into Salta and Jujuy, the subtropical provinces of the northwest, and, in a small way, even in the rainy northeastern territories of Formosa and Misiones. The horse is somewhat like the ox in his climatic requirements, but does not thrive in a rainfall of more than 55 inches in the Argentine, and therefore his northern limit is more restricted than that of the ox. Moisture is even more disadvantageous to sheep, and they do not thrive north of the line of annual precipitation of 40 inches. strong points of the sheep are resistance to cold and hunger. fleece enables them to endure the storms of Patagonia, and they can fast for considerable periods when necessary, and they will also paw through a foot of snow to obtain food. As a result of this hardihood, the shores of Patagonia and even of Tierra del Fuego are rapidly being taken up as sheep ranges. Many of the settlers are British subjects coming across from the Falkland Islands, where for a century they have carried on sheep-raising under somewhat similar climatic conditions, and developed a hardy breed of Falkland sheep. The flocks of Patagonia increased from 30,800 in 1881 to two million in 1895, and have had large increase since that Parts of interior Patagonia are high, arid, and rocky, but recent explorations have shown that, toward the foot of the Andes and south of 40° latitude, there is a promising country of lakes, forests, pastures, and fair rainfall. The climate here is said to resemble that of Scotland, which is also pre-eminently a sheep country. It is a curious fact that nearly all of the sheep of Argentina are owned or controlled by Englishmen or Scotchmen, who have brought hither their breeds of sheep and their knowledge of caring for them. The cattle industry remains in the hands of the more military Spanish and half-breed races.

^{*} Annales de Géographie, p. 253.

The pastoral industry is scattered over a wide area, yet the greater part of it is concentrated near the lower course of the Parana River.* The alluvial pastures of southern Entre Rios and northern and northeastern Buenos Aires are the pasto tierno (soft annual grasses), and especially famed for producing the finest fat cattle, sheep, and wool. This district has all the advantages of fertile soil, good climate, satisfactory rainfall, and nearness to the markets. Going inland in any direction is a rapid decrease in the number of animals that can be supported per unit of area, because the pasture is harsh perennial bush grass (pasto fuerte, "pampas grass"), beginning at the edge of the 40-mile alluvial strip along the river. The value of this pasture has been greatly increased by the planting of alfalfa in places as far west as Victoria, in eastern Pampa. Beyond the alfalfa limit the land supports less than one sheep per acre. †

Agriculture.—The real beginnings of Argentine agriculture were in the decade 1870-80. Following the almost contemporaneous example of Kansas and Nebraska, railroads were built out into the cattle and sheep ranges, the improved reaping machinery was introduced, and agriculture on a large scale was begun. In 1883 the railroad from Buenos Aires to Mendoza was completed and a market opened for this district, which had been settled from the Pacific coast, and which had had an economic existence much like that of the Mormon settlements on Salt Lake before the opening of the Union Pacific Railway in 1869. The new outlet gave an impetus to a fruit and wine industry that now goes far to supply the wants of the country. The opening of a railway to Tucuman has produced a similar development of the sugar industry in that province. The agriculture of the western districts has been in the main only an attempt to supply food products to the home market. The agricultural exports-wheat, Indian corn, and flaxseed-are all produced in the eastern district. The census of 1895 showed that, in

^{*}Punta Arenas, in Chilean territory on the Straits of Magellan, has already become the centre of a large meat industry, and is a regular port of call for European steamers. Even the Island of Cape Horn has been found to have water supply and pasture, and an expedition has been dispatched to establish a lighthouse there.

The Census of 1895 returns 17,614,000 cattle, 68,444,000 sheep, and 3,422,000 horses in the five eastern provinces of Buenos Aires, Entre Rios, Cordoba, Santa Fé and Corrientes. The same census gave the total figures for the entire country as follows: Cattle, 21,690,000; sheep, 74,380,000; horses, 4,447.000. The area marked upon the accompanying map as the possible wheat area, along with a narrow strip to the north of it, contains 80 per cent. of the cattle and 95 per cent. of the sheep.

[†] Kaerger, p. 232.

a total wheat acreage of 5,061,000 acres, 4,915,000 acres were in the provinces of Buenos Aires, Cordoba, Entre Rios, and Santa Fé. In 1901* the same States had $\frac{4}{5}$ of the wheat acreage and a larger share of the flax and corn.

As in the new grain-growing sections of the United States, the Argentine farming operations began on a large scale, and with no regard to methodical agriculture. The breaking up of the large estates into farms has not followed, as in this country. The Argentine agriculture is still in the plantation stage. † The farmer is the European peasant, usually Italian, who rents land as best he can, frequently on short terms, from the representatives of absentee His house is a temporary structure; he piles his grain landholders. upon the ground; he often wanders from place to place; and the methods of culture are crude and primitive. The wheat and corn acreage fluctuate from year to year, according to the crop conditions and price prospects. If wheat has done poorly and corn prices are high, corn is planted, and the reverse conditions are true. The uncertainty of Argentine grain-growing is indicated by the irregularity in acreage, product and exportation.

The irregular rainfall produces droughts and floods, and the plague of locusts has many times worked great destruction to crops, at times even threatening to annihilate agriculture in provinces north of Buenos Aires Province. Persistent effort has reduced the loss from this source.

GRAIN	PRODUCTION.	(From	Statesman's	Year Book.)
	· 1			1

W неат.			MAIZE.		FLAX.	
	ACRES.	TONS.\$	ACRES.	TONS.	ACRES.	TONS.
1895-6.‡	5,500,000	1,400,000				
1896-7	5,500,000	1,500,000	• • • • • •			******
1897-8	• • • • •		• • • • • •	• • • • • •		• • • • •
1898-9	7,904,000	2,500,000	• • • • •			
1899-00.	5,476,000	1,850,000		1,000,000	646,000	170,000
1000-01.	8,449,372	2,871,440		2,000,000	1,518,000	390,000

^{*}Bulletin of Bureau of American Republics, October, 1901, p. 674, and Statesman's Year Book.

[†]Bulletin of Bureau of American Republics, August, 1901, p. 216.

[‡] Two years must be given because the southern summer, the growing season, is from November to April.

[§] Metric ton, 2,204 lbs., or 36.73 bushels of wheat.

	WHEAT.	MAIZE.	FLAX.	
1895	1,010,269	772,318		
1896	532,001	1,570,517		
1897	101,845	347,942	162,477	
1898	645, 161	717,105	158,954	
1899	1,713,424	1,116,276	217,713	
1900	1,929,676†	713,248	223,257	
1901	904, 289	1,112,290	338,828	
1902	Est. 700,000			

GRAIN EXPORT.* (Tons.)

The wheat area of the Argentine is limited by the conditions of rainfall and water supply. With the exception of southern Patagonia and certain parts of the Andes, the soil and temperature are suitable for wheat, but the rainfall is inadequate, or at the wrong season, over the greater part of this area. From 39° S. to the Bolivian boundary there is a zone near the Andes where the average annual rainfall is less than eight inches. Successful wheat-growing requires this much as a minimum, and it must fall during the growing season of winter and spring. Wheat can only grow here with irrigation.

In the north of Argentina there are districts (as in the Province of Santiago del Estero) having 28 to 32 inches of rain per year; but irrigation is necessary here also, because the heaviest rainfall is in summer, when it is unavailable for wheat. In going northward from the latitude of Buenos Aires and westward from the Parana, the rains of summer tend more and more to predominate over the winter rains. With this distribution, wheat requires in the warmer districts a minimum of at least 40 inches per year. In the south, where the winter rains predominate and the loss from evaporation is less, 16 inches per annum will suffice for wheat. This condi-

[†] Amounting to more than 70 million bushels. Exports of wheat from the United States were as follows in million bushels:

1897	79
1898	
1899	139
1900	102
1901	132

^{*} Figures from Statesman's Year Book, excepting those for 1901, 1902, and those or flax, which came from Bulletin of Bureau of American Republics.

tion does not prevail south of a N.W.-S.E. line connecting Villa Mercedes and Bahia Blanca; and from Bahia Blanca southward irrigation is necessary in the seashore region also. The north, west, and south are thus debarred from wheat culture. The northeast, with rainfall of 40-75 inches, is also debarred, because the heat, combined with excess of moisture, renders the wheat liable to disease, makes the grain of bad quality, and is liable to spoil it in the harvest. The wheat district is, therefore, confined to a rough parallelogram in the eastern central part of the country, comprising all of the Province of Entre Rios, nearly all of Buenos Aires, more than half of Santa Fé and Cordoba, and a corner of the Territory of Pampa.*

This is a splendid territory. It is nearly all level plain and unencumbered with forest, except for 60 miles in the north and some bush lands in the west. Much of it is alluvial soil, and the rest is of exceptional fertility in potash and phosphoric acid. † The area is as large as that part of Missouri beyond the Missouri River, all of Arkansas and Indian Territory, and the arable parts of Oklahoma, Kansas, and Nebraska, ‡ 247,000 square miles, or 158,000,000 acres. Owing to the exceptional smoothness of the land, it is probable that 14,000,000 acres will cover the inarable part, leaving 144,000,000 acres for the plough. Assuming a three-year rotation, such as is successfully practised in the best farming districts of the United States, there will be 48,000,000 acres per year for wheat—eight times the present acreage. §

Such a system would preserve or increase the fertility of the soil, enable production to continue indefinitely, and, with the two intervening crops, probably support as many cattle and sheep as it does at present. Such methodical agriculture is as yet remote, but the extension on new lands of the present extensive system

^{*} These boundaries (from Kaerger, p. 408-15 and 873-6) are approximate only, especially on the west. Some writers claim a larger territory in that direction, and there seems to be a tendency for rainfall to increase with cultivation.

[†] See analyses in Kaerger, p. 9. At the Colony of Esperanza, near Santa Fé, the same land has produced an undiminished yield of wheat for 40 years.

[‡] The limit of successful agriculture in these States nearly coincides with the rooth meridian west of Greenwich.

[§] It would be possible between the longitude of Buenos Ayres and San Luis and the 33rd and 37th parallels to have a wheat-field with the furrows 300 miles long and the headlands 200 miles wide, with no further incident to break its monotony than an occasional narrow streamlet and here and there the cluster of one-storied houses forming the local townships.—[From a letter from Herbert Gibson, Esq., an English writer owning extensive sheep ranches in the Argentine.]

of grain-growing could produce a much greater yield for a limited period. The best of agricultural systems will not prevent the serious fluctuations resulting from the irregularities of rainfall, which occasionally flood or parch the crops, and the present stationary wheat average is not indicative of an agricultural revolution.

Maize, or Indian corn, requires for successful growth summer rains and a higher annual average than will suffice for wheat. It also survives, uninjured, the humidity that is fatal to wheat, and a hot summer is favourable to its perfection. The Argentine possesses a corn belt of large but uncertain area in the eastern part of the wheat region, and in the more humid northeast. The production is not so important or so promising as the wheat crop. The greater part of the possible corn land is covered with forest, which can only be cleared at considerable expense, and the sub-tropic and tropic climate is uninviting to settlers. The market conditions have not been satisfactory. The pork industry furnishes the most natural home market for corn, and thus far the raising of swine has made small progress.

Flax cultivation is at present rapidly on the increase. It is grown for the seed only, the yield being about the same as that of wheat, and sometimes greater. The area of cultivation is limited almost entirely to the alluvial valley of the Parana, north of Buenos Aires.*

The agriculture of western Argentina is of an entirely different character from that of the east. Instead of herdsmen and the roving laborers of one-crop grain farming, the Andean valleys are populous with tillers of the soil who follow the more intensive methods of irrigation farming. The area that can be supplied with water is comparatively small, but is as yet far from being fully developed. The dependence upon high mountains for the water supply limits the irrigation belt to the neighbourhood of the Andes and the Mountains of Cordoba, where a second irrigation community has grown up on the east side of the north and south Sierra de Cordoba.

The building of two railroads across the Great Plains to the foot of the Andes has caused the development of two western provinces, and has given the people of Argentina a domestic supply of three commodities which had before been imported—wine, fruits, and sugar.

The planting of cane and the manufacture of sugar are confined

^{*} Kaerger, 455.

almost exclusively to the small province of Tucuman. There are at the same time other districts with climatic conditions as well or better suited to the growth of cane. The northeastern part of the country—the territories of Formosa, Chaco, Misiones, and northern Corrientes—have a warmer summer, a suitable rainfall, and less danger of winter frost; but Tucuman has the security of irrigation, and the more wholesome climate made it one of the early districts settled, while the northeast remains almost a wilderness, with very small increase in population. In 1830 the culture of cane was begun in Tucuman; the industry has remained there, and in spite of the low percentage of sugar and the poor yield per acre,* it has increased since the opening of the railroad, and now supplies the entire country with a surplus for export. The industry would probably decline but for the protection of a favorable tariff, which the country appears willing to continue. In 1895 the acreage was 82,000; and in 1899, 120,000, with 103,000 tons of sugar. According to a calculation made in 1894, the industry employed 60,000 laborers, who had come from provinces adjacent to Tucuman, 6,000 wagons and carts, and 60,000 work animals; 500,000 tons of wood were brought from Santiago del Estero, and a considerable mileage of railroad depends upon sugar for its freight. The province of Tucuman is the most densely populated in the country, † and furnishes a market for wheat and corn from Santa Fé, alfalfa from Cordova, wine from Mendoza, and cattle from Jujuy and Salta.† In recent years the sugar industry has passed through a crisis due to over-production (for the home market) and the necessity of selling a surplus abroad in competition with European bounty sugar. The result has been the organization of the manufacturers, who have succeeded in controlling the prices and limiting the production nearly to the demands of the country.§

The wine industry has made an advance similar to that of sugar. The grape grows throughout the central part of the country, both east and west. The humidity and heat of parts of Buenos Aires cause disease, but the vine does well in Entre Rios, in the south, in the new settlements on the Rio Negro, and in the west. It is

^{*}The cane in Tucuman yields 7-8% sugar; in Mauritius, 18-19%; in Mexico, 18-19%. The sugar yield per hectare (2½ acres) is 2 tons in Tucuman, 3 tons in Natal, 4 tons in Egypt, 5 tons in Louisiana, and none of the latter countries is especially favoured for sugar production. Annales de Géographie, p. 255.

[†] In 1900 the population per square mile was 27.9 in Tucuman, 9.6 in Buenos Aires, 10.5 in Santa Fé, 11.9 in Entre Rios, 8.5 in Corrientes.

[‡] Annales de Géographie, p. 255.

[§] Annales de Géographie, No. 57, p. 256.

only in the dry and stony slopes of the Andes in the provinces of Mendoza* and San Juan that wine-making is extensively carried on, and here irrigation is a necessity.

In 1895, 71,000 acres were in vines. There have been extensions since that date, and the heavy wine importations of 20 years ago have been reduced to less than 20% of their former volume, and consist of the finer grades that cannot be grown at home. Nevertheless, Argentina wine production leaves much to be desired. The wine does not have good keeping or shipping qualities. The manufacturing plants are not of the best pattern, and the lack of refrigerating apparatus makes it impossible to control the temperature and regulate the fermentation. The vines are usually of French varieties and ripen their fruit much too early, necessitating the making of wine in the period of greatest heat. These difficulties are greater in San Juan than in Mendoza, because the cooler climate in the latter lets the vines remain dormant longer in the spring.

The early ripening of the fruit can only be remedied by the introduction of new varieties adapted to the climate. It is even possible that the desired varieties may have to be developed in the country, as they were in the eastern part of the United States. Under any conditions the replacing of the old vines with new will be a slow process, as it means the loss of income for several years. The successful development of a wine export trade seems to await these improvements in varieties and refrigeration.† In the meantime the only wines imported are some of the high-priced European specialties.

The irrigated region of the west is also the scene of a rising fruit industry somewhat similar to that of California. The natural conditions for drying fruit are excellent, and some grades are already grown in quantities sufficient for the home demand. In 1895 the raisin production was 10,582 tons.

Transportation and Population.—The extent of railroad development is one of the best indices of the development of an agricultural country. In this respect Argentina is far behind the western half of the Missouri-Mississippi Valley. This part of the United States has over 40,000 miles of railway, the whole of the

^{*} Mendoza has 60,000 acres in vines, and produced over 26 million gallons of wine in 1901. Bulletin of Bureau of American Republics, October 1901, p. 676.

[†] Annales de Géographie, p. 257.

Argentine 10,213,* but 200 miles more than the combined mileage of the State of Kansas and the Indian Territory.

The distribution of the Argentine railways reflects the industrial development of the different parts of the country. There is something of a network in the grain-growing region of the east and in the sugar districts of Tucuman, while long lines reach across the plains to the distant western settlements. The Government encourages immigration and agriculture, and there are extensive railroad plans for the future, including three lines across the Andes; as yet the first line, from Mendoza to Santiago in Chile, requires a difficult tunnel to complete it. The Government owns 1,200 miles of unprofitable railway, and all the other lines are owned by English capitalists.

The Parana River is navigable to the northern boundary of the country and is an important commercial highway. The Rio Colorado, in the southern frontier region, has also been found to be navigable for 300 miles. The Parana is navigable for ocean steamers as far as the port of Rosario (population 112,461 in 1900). The river is deep, and vessels can load directly from the warehouses upon the shore. The location of this port near the agricultural centre is such that the city must acquire an increasing importance in the export of agricultural commodities. The shipments of this class of articles amounted to 900,000 tons in 1901.

At the southern end of the agricultural region the Bahia Blanca reaches far inland, and at its head is the port of Bahia Blanca, a railway centre now rising into commercial importance, and having a promising future as the outlet for the pastures and grain fields of the southwest. Buenos Aires, the largest city among the Latin races, is the metropolis, the greatest market, and it therefore continues to be the predominant port for imports and the leader in exports, although the harbor is naturally very shallow.

The Argentine population numbered 3,954,911 in the census of 1895; and in 1900 the estimated number was 4,749,149. The increase was general throughout the country, except in the northeastern territory of Misiones, where there was a slight decline. The city and province of Buenos Aires increased one-quarter, the province of Santa Fé one-third, the newly-opened territory of Pampa nearly doubled, and the few hundreds in Tierra del Fuego were increased four-fold. The total population equals that of

^{*} Figures for the end of 1901. Bulletin of Bureau of American Republics, March, 1902, p. 571.

Kansas, Nebraska, and the part of Missouri * lying to the southwest of the Missouri River. The Argentine population is a mixture of the three Latin races of Europe, with some Indian blood, but the proportion of Caucasian is far greater than in any of the tropic countries of South America. Since wool-growing became profitable in the middle of the nineteenth century there has been a considerable European immigration, chiefly from south Europe. From 1895 to 1900, inclusive, the arrivals ranged from 84,000 to 135,000 per year; but the unsettled character of the population is shown by the returning immigrants, who numbered during the same period from 37,000 to 62,000 per year, leaving the average annual gain by immigration during the six years 55,852. In 1895, of the foreign-born population 500,000 were Italians, 200,000 Spanish, 100,000 French, 22,000 English, 15,000 Swiss, 17,000 Germans, 13,000 Austrians.

ON THE NORTH WEST PASSAGE AND THE CIRCUM-NAVIGATION OF AMERICA.

ву

ANDREW J. STONE.

Early Arctic exploration was nearly always undertaken in the interest of commercial affairs. Scientific work, though extensively conducted, was almost always a secondary consideration; very especially was this the case in the many attempts to make the North West Passage.

Interest in the natural sciences has greatly influenced a tendency toward strictly scientific work, and most expeditions fitted out in recent years for exploration in the Arctic have made scientific work their first and most important object, and of such popular interest has this work become that it is doubtful if an expedition for any other purpose could find support.

Expeditions in the interest of science ever have been and will be largely directed by those who prosecute the work rather than by the people who support it.

Rarely, if ever, do the supporters of such work really dictate where and how it must be performed. This is easily understood when we take into consideration that such an expedition is gene-

^{*} Estimated at 2,000,000.